

### **REMARKS**

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The Final Office Action of May 28, 2003 has been received and its contents carefully reviewed.

In the Office Action, the Examiner rejected claims 1-3, 6, and 10-13 under 35 U.S.C. §103(a) as being unpatentable over the related art illustrated in Figures 3 and 4 in view of Terumoto (U.S. Pat. No. 5,530,570); and rejected claims 4, 5, 14, and 15 under 35 U.S.C. §103(a) as being unpatentable over the related art illustrated in Figures 3 and 4 in view of Terumoto and further in view of Shiba et al. (U.S. Pat. No. 5,526,014). The rejections of these claims are traversed and reconsideration of the claims is respectfully requested in view of the following remarks.

The rejection of claims 1-3, 6, and 10-13 under 35 U.S.C. §103(a) as being unpatentable over the related art illustrated in Figures 3 and 4 in view of Terumoto is traversed and reconsideration is respectfully requested.

Independent claim 1 is allowable over the cited art in that claim 1 recites a combination of elements including, for example, “a liquid crystal panel having a plurality of gate and data lines and a plurality of sub-pixels, ... wherein each sub-pixel is defined by the gate and data lines and corresponds to a color filter that has one of red, green, blue and white colors, wherein color filters along the same data line have the same color, wherein adjacent ones of color filters along the same gate line have different colors, and wherein a black matrix is arranged between each color filter.” None of the cited references including the related art illustrated in Figures 3 and 4 or Terumoto, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicants respectfully

submit that independent claim 1 and claims 2-6, which depend therefrom, are allowable over the cited references.

Independent claim 10 is allowable over the cited art in that claim 10 recites a combination of elements including, for example, “a first substrate having deposited thereon a plurality of color filters and a black matrix arranged between each of the color filters..., a second substrate... having... a plurality of sub-pixels each formed at an intersection of one of the gate lines and data lines... wherein each sub-pixel corresponds to one of the color filters, wherein color filters along the same data lines have the same color, and wherein adjacent ones of color filters along the same gate line have different colors.” None of the cited references including the related art illustrated in Figures 3 and 4 or Terumoto, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicants respectfully submit that independent claim 10 and claims 11-15, which depend therefrom are allowable over the cited references.

To establish *prima facie* obviousness of a claimed invention, (1) there must at least be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the teachings; and (2) all the claim limitations must be taught or suggested by the prior art. See MPEP § 2143. Establishment of a *prima facie* case of obviousness requires there be at least some objective reason to modify the reference. See MPEP § 2143.02.

For the reasons set forth below, Applicants respectfully submit a *prima facie* case of obviousness has not been established with regard to the presently claimed invention.

The Examiner states the related art illustrated in Figures 3 and 4 “...in the present application differs from the claimed invention because it does not explicitly disclose that the

color filters are stripe-shaped and a black matrix is arranged among the stripe-shaped color filters.” To cure the deficiencies of the related art illustrated in Figures 3 and 4, the Examiner cites Terumoto “...as shown in Fig. 6(c)... the stripe-shaped color filters have an arrangement wherein color filters along the same data lines have the same color, and adjacent ones of color filters along the same gate line have different colors” and concludes it would have been obvious to “...modify the display device of the [related art illustrated in Figures 3 and 4] by using the stripe-shaped color filters to avail a known pattern.” The Examiner further alleges “forming black matrix among stripe-shaped color filters is common and known in the art for several reasons such as... and thus would have been obvious.”

Firstly, Applicants respectfully submit Figure 6(c) of Terumoto fails to teach or suggest that “stripe-shaped color filters have an arrangement wherein color filters along the same data lines have the same color, and adjacent ones of color filters along the same gate line have different colors,” as asserted by the Examiner. Moreover, after thoroughly reviewing Terumoto, Applicants respectfully submit “gate lines” and “data lines” are not even mentioned. Further, at column 1, lines 43-54, Terumoto states

“It will be apparent from studying FIGS. 6(a), 6(b) and 6(d) that, when the R, G and B color filters are arranged alternately in a mosaic manner, the wires used to connect electrodes of the same color together cannot be arranged so that they do not cross each other. If the wires used to connect the electrodes for R, G and B cross one another, however, then both of the colors corresponding to the crossed wires are turned on in the crossing portions thereof. In addition, the wires must be arranged to cross at two levels separated by an insulation film to prevent the two wires from being short-circuited, which greatly increases the production time and also lowers the reliability of the display arrangement.”

At column 2, lines 4-9, Terumoto states

“... as shown in FIG. 6(c), in a stripe-type arrangement in which the color filters of the same color are arranged in columns, ...the electrodes in each column are connected with one another and corresponding wires extend away from the display screen so that different wires cross one another only outside of the display area...”

Accordingly, Applicants respectfully submit Terumoto actually teaches away from the use of gate and data lines and therefore respectfully submit Terumoto cannot be reasonably relied upon to show that “stripe-shaped color filters have an arrangement wherein color filters along the same data lines have the same color, and adjacent ones of color filters along the same gate line have different colors,” as asserted by the Examiner.

Secondly, Applicants respectfully submit Terumoto teaches at column 2, lines 12-16, in reference to Figure 6(c), “...because the filters of the same color follow one another in each column, a partial color display is produced and, in particular, when two or more colors are mixed together, a uniform mixed color cannot be obtained.” Accordingly, and assuming *arguendo* Figure 6(c) of Terumoto actually teaches the presently claimed color filter arrangement, Applicants respectfully submit Terumoto only provides a suggestion or motivation not to arrange color filters where “filters of the same color follow one another in each column” because a “uniform mixed color cannot be obtained.”

Therefore, Applicants respectfully submit Terumoto actually teaches away from the color filter arrangement as presently claimed and further submit it would not be obvious to modify the related art illustrated in Figures 3 and 4 with Terumoto merely to “avail a known pattern,” as asserted by the Examiner. Absent some objective reason to modify the related art shown in Figures 3 and 4, Applicants respectfully submit that the related art illustrated in Figures 3 and 4 and Terumoto have merely been combined using the claimed invention as a template via impermissible hindsight reasoning.

Lastly, Applicants respectfully submit forming a black matrix among stripe-shaped color filters is not claimed in the present invention. Applicants respectfully submit that, among other elements, claims 1 and 10 require that the black matrix is arranged between each color filter, not merely “among” the color filters. Moreover, Applicants respectfully submit, absent impermissible hindsight reasoning, there is no suggestion or motivation, either in the references themselves, or in the knowledge generally available to those of ordinary skill in the art, to modify or combine the related art illustrated in Figures 3 and 4 and Terumoto to arrive at the claimed invention.

Accordingly, Applicants respectfully submit a *prima facie* case of obviousness has not been established with respect to the claimed invention.

The rejection of claims 4, 5, 14, and 15 under 35 U.S.C. §103(a) as being unpatentable over the related art illustrated in Figures 3 and 4 in view of Terumoto and further in view of Shiba et al. is traversed and reconsideration is respectfully requested.

Claims 4 and 5 include all of the limitations of claim 1 as discussed above, and the related art illustrated in Figures 3 and 4 in view of Terumoto fails to teach or suggest at least the features of independent claim 1 as recited above. Similarly, Shiba et al. fails to cure the deficiencies of the related art illustrated in Figures 3 and 4 in view of Terumoto. Accordingly, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness regarding claims 4 and 5 in view of claim 1, as above.

Claims 14 and 15 include all of the limitations of claim 10 as discussed above, and the related art illustrated in Figures 3 and 4 in view of Terumoto fails to teach or suggest at least the features of independent claim 10 as recited above. Similarly, Shiba et al. fails to cure the deficiencies of the related art illustrated in Figures 3 and 4 in view of Terumoto.

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Accordingly, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness regarding claims 14 and 15 in view of claim 10, as above.

Applicants believe the application in condition for allowance and early, favorable action is respectfully solicited. Should the Examiner deem that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned attorney at (202) 496-7500.

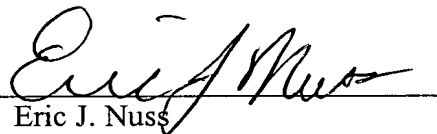
If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136. Please credit any overpayment to deposit Account No. 50-0911.

Respectfully submitted,

MCKENNA LONG & ALDRIDGE, LLP

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By



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